What is claimed is:

1. A method of manufacturing a glass article comprising:

providing bonding surfaces on first and second glass articles;

attaching the bonding surfaces of the first and second glass articles without an adhesive and at a temperature lower than softening temperature of the glass articles to provide a preform; and

a bar drawing the preform to provide a fiber, a rod, a sheet, a bar or a tube.

2. The method of claim 1, wherein the first and second glass articles are optical fiber preforms and the bonding surfaces are disposed on the ends of optical fiberpreforms.

3. The method of claim 1, further including the step of providing a hydrophilic surface on the bonding surfaces of thefirst and the second glass articles.

4. The method of claim 3, further including forming hydrogen bonds between the bonding surfaces of the first and the second glass articles.

5. The method of claim 4, further including a step of contacting the bonding surfaces of the first and second glass articles with an acid.

6. The method of claim 4, further including a step of providing termination groups on the bonding surfaces of the first and second glass articles selected from the group

consisting of --OH, ≡Si-OH, =Si-$(OH)_2$, -Si-$(OH)_3$ and -O-Si-$(OH)_3$, and combinations thereof.

7. The method of claim 6, further including a step of contacting the ends of the first and second glass articles with a solution having a pH greater than 8.

8. The method of claim 7, wherein the solution includes a hydroxide.

9. The method of claim 8, wherein the solution includes ammonium hydroxide.

10. The method of claim 6, further including a step of eliminating absorbed hydroxyl groups at an interface between the first and second surfaces.

11. The method of claim 10, wherein the step of eliminating involves heating the bonding surfaces to a temperature less than 500° C.

12. The method of claim 1, wherein the first and second glass articles are tubes and the bonding surfaces include sidewalls of the tubes.

13. The method of claim 1, wherein the first and second glass articles include a polarizing glass.

14. A method of manufacturing an optical fiber preform assembly comprising a step of:

attaching ends of a first and second optical fiber preforms without an adhesive and at a temperature less than the softening temperature of the preform.

15. The method of claim 14, further including a step of providing adsorbed hydroxyl groups on the ends of the first and second optical fiber preforms.

16. The method of claim 15, further including step of contacting the ends of the preforms with an acid.

17. The method of claim 16, further including a step of contacting the ends of the preforms with a solution having a pH greater than 8.

18. The method of claim 17, wherein the solution includes ammonium hydroxide.

19. The method of 17, further including a step of providing a moist surface on the ends of the preforms.

20. The method of claim 19, further including a step of heating the preforms such that adsorbed hydroxyl groups remain on the ends of the preforms.

21. The method of claim 20, further including a step of forming a covalent bond between the ends of the preforms.

22. A method of forming an optical fiber comprising the steps of:

bonding end surfaces of at least two optical fiber preforms without an adhesive and at a temperature less than the softening temperature of the preforms to provide a blank; and

drawing optical fiber from the blank.

23. The method of claim 22, further comprising a step of providing termination groups on the end surfaces of the preforms.

24. The method of claim 23, further comprising the step of providing hydroxyl termination groups on the end surfaces of the preforms.

25. The method of claim 24, further comprising the step of contacting the end surfaces of the preforms with an acid.

26. The method of claim 25, further comprising the step of providing termination groups on the end surfaces of the preforms selected from the group consisting of -OH, ≡Si-OH, $=Si-(OH)_2$, $-Si-(OH)_3$ and $-O-Si-(OH)_3$, and combinations thereof.

27. The method of claim 26, further including the step of contacting the end surfaces of the preforms with a solution having a pH greater than 8.

28. The method of claim 27, wherein the solution includes ammonium hydroxide.

29. The method of claim 26, further comprising the step of providing absorbed water molecules and adsorbed hydroxyl groups on the end surfaces of the preform.

30. The method of claim 29, further comprising the step of heating the end surfaces such that the adsorbed hydroxyl groups remain on the end surfaces of the preforms.

31. The method of claim 29, further comprising the step of forming a covalent bond between the preforms.

32. An optical fiber waveguide made by the method of claim 22.